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Determination of the factors influencing the distribution of *Faunus ater.* (Mollusca: Gastropoda: Thiaridae) along the Lunuwila Ela, Galle

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Molluscs are a major macro invertebrate group that plays a significant ecological role in aquatic ecosystems. However, due to different reasons, molluscan groups are vulnerable to threat now than ever before. In this study, factors that affect the distribution of *Faunus ater* along the Lunuwila Ela in Galle were determined using ten physic-chemical parameters: Dissolved oxygen (DO), Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Alkalinity (ALK), Suspended Solids (SS), Total Dissolved Solids (TDS), Hardness (HARD, Salinity (SAL), Temperature (T). These parameters were then analyzed related to the abundance of *Faunus ater.* Four sites including 16 replicates were sampled and data was collected for six months: from January to June 2007. Using multiple comparison option of ANOVA, variations of parameters among sites were compared. A regression analysis was carried out to find out the relationship among water quality parameters and the abundance of the target species. Compositions of the substrate were determined by the sedimentation method. Among ten parameters investigated, six of them were significantly different among four sites (COD, BOD, DO, salinity, temperature, and abundance of *F. aster.* According to the regression analysis, none of the physiochemical parameters estimated in this study is responsible for the distribution of *F. aster* species along the stream. The highest abundance of individuals of *F. aster* was recorded in site 02 (replicate c) with substrate of fine sand (25%), clay (30%) and silt (45%). This suggests that among the parameters investigated, composition of the substrate makes a significant contribution to their distributional pattern. However, the cement factory situated nearby releases a considerable amount of fine particles to Luniwila Ela. Therefore, further studies are needed to determine whether this anthropogenic activity plays a significant role in distribution of *F. aster* along the Luniwila Ela, Galle.

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